Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A digital storage medium, comprising:

a substrate;

a first magnetic layer disposed over the substrate, wherein the first magnetic layer has a first magnetic moment having a tilted easy axis;

a second magnetic layer disposed over the first magnetic layer, wherein the second magnetic layer has a second magnetic moment having a tilted easy axis; and

an overcoat layer disposed over the second magnetic layer,

wherein the first magnetic layer has a perpendicular magnetic anisotropy and the second magnetic layer has a longitudinal anisotropy.

2-7. (Canceled)

8. (Currently amended) ~~The~~ A digital storage medium ~~of claim 1~~, comprising:

a substrate;

a first magnetic layer disposed over the substrate, wherein the first magnetic layer has a first magnetic moment having a tilted easy axis;

a second magnetic layer disposed over the first magnetic layer, wherein the second magnetic layer has a second magnetic moment having a tilted easy axis; and

an overcoat layer disposed over the second magnetic layer,

wherein the first magnetic layer has a perpendicular magnetic anisotropy and the second magnetic layer has a longitudinal anisotropy.

9. (Currently amended) The digital storage medium of claim ~~7~~ 1 or 8, wherein the magnetic layer with the longitudinal anisotropy includes a material selected from a group consisting of cobalt (Co), iron (Fe), nickel (Ni), and alloys thereof.

10. (Currently amended) The digital storage medium of claim ~~7~~ 1, wherein the magnetic layer with the perpendicular anisotropy includes a material selected from a group consisting of cobalt, iron, and alloys thereof.

11. (Original) The digital storage medium of claim 8, wherein the magnetic layer with the perpendicular anisotropy includes a material selected from a group consisting of cobalt, iron, and alloys thereof.

12. (Original) The digital storage medium of claim 10, wherein the magnetic layer is formed from a single layer of alloys selected from a group consisting of cobalt-platinum (CoPt), cobalt-palladium (CoPd), cobalt-chromium-platinum (CoCrPt), cobalt-chromium-platinum-boron (CoCrPtB), cobalt-chromium-platinum-tantalum (CoCrPtTa), cobalt-chromium-platinum-niobium (CoCrPtNb), and iron-platinum (FePt).

13. (Original) The digital storage medium of claim 11, wherein the magnetic layer is formed from a single layer of alloys selected from a group consisting of cobalt-platinum (CoPt), cobalt-palladium (CoPd), cobalt-chromium-platinum (CoCrPt), cobalt-chromium-platinum-boron (CoCrPtB), cobalt-chromium-platinum-tantalum (CoCrPtTa), cobalt-chromium-platinum-niobium (CoCrPtNb), and iron-platinum (FePt).

14. (Original) The digital storage medium of claim 10, wherein the magnetic layer is formed from multiple layers of ferromagnetic materials selected from a group consisting of cobalt with palladium as a spacer layer (Co/Pd), cobalt with platinum as a spacer layer (Co/Pt), a cobalt alloy with palladium as a spacer layer, and a cobalt alloy with platinum as a spacer layer.

15. (Original) The digital storage medium of claim 11, wherein the magnetic layer is formed from multiple layers of ferromagnetic materials selected from a group consisting of cobalt with palladium as a spacer layer (Co/Pd), cobalt with platinum as a spacer layer (Co/Pt), a cobalt alloy with palladium as a spacer layer, and a cobalt alloy with platinum as a spacer layer.

16. (Original) The digital storage medium of claim 12, wherein the alloys are doped with non-ferromagnetic materials selected from a group consisting of silicon oxide and silicon nitride.

17. (Original) The digital storage medium of claim 13, wherein the alloys are doped with non-ferromagnetic materials selected from a group consisting of silicon oxide and silicon nitride.

18. (Currently amended) ~~The~~ A digital storage medium ~~of claim 1~~, ~~further~~ comprising:

a substrate;

a first magnetic layer disposed over the substrate, wherein the first magnetic layer has a first magnetic moment having a tilted easy axis;

a second magnetic layer disposed over the first magnetic layer, wherein the second magnetic layer has a second magnetic moment having a tilted easy axis;

an interlayer disposed between the first magnetic layer and the second magnetic layer; and

an overcoat layer disposed over the second magnetic layer.

19. (Currently amended) The digital storage medium of claim 18, wherein the interlayer includes a ~~high saturation~~ magnetization material selected from a group consisting of cobalt, nickel, iron, alloys of cobalt, alloys of nickel, and alloys of iron.

20. (Original) The digital storage medium of claim 18, wherein the interlayer includes a non-magnetic material selected from a group consisting of ruthenium (Ru), rhodium (Rh), chromium (Cr), copper (Cu), iridium (Ir), and alloys thereof.

21-40. (Canceled)

41. (New) The digital storage medium of claim 1, further comprising an interlayer disposed between the first magnetic layer and the second magnetic layer.

42. (New) The digital storage medium of claim 41, wherein the interlayer includes a magnetization material selected from a group consisting of cobalt, nickel, iron, alloys of cobalt, alloys of nickel, and alloys of iron.

43. (New) The digital storage medium of claim 41, wherein the interlayer includes a non-magnetic material selected from a group consisting of ruthenium (Ru), rhodium (Rh), chromium (Cr), copper (Cu), iridium (Ir), and alloys thereof.

44. (New) The digital storage medium of claim 8, further comprising an interlayer disposed between the first magnetic layer and the second magnetic layer.

45. (New) The digital storage medium of claim 44, wherein the interlayer includes a magnetization material selected from a group consisting of cobalt, nickel, iron, alloys of cobalt, alloys of nickel, and alloys of iron.

46. (New) The digital storage medium of claim 44, wherein the interlayer includes a non-magnetic material selected from a group consisting of ruthenium (Ru), rhodium (Rh), chromium (Cr), copper (Cu), iridium (Ir), and alloys thereof.